DEVELOPMENT OF BIO BASED CARTRIDGE WATER FILTER

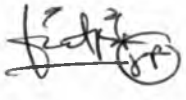
DEWI FITRIDEWATY BINTI JOHN

FACULTY OF CHEMICAL ENGINEERING
UNIVERSITI TEKNOLOGI MARA
SHAH ALAM

2009

DECLARATION

"I hereby declare that this report is the result of my own work except for the quotations and summaries which have been duly acknowledge."



DEWI FITRIDEWATY BINTI JOHN
2006844264

23 NOVEMBER 2009

ABSTRACT

Nowadays, mostly cartridge water filter were develop from the petroleum resources, which is having depletion from days to days. Besides, the incineration emissions contribute a large impact to our environment. Therefore, it is important to develop new technology of cartridge water filter that has less impact towards environment, which is the bio-based cartridge water filter. The raw material used in the development of bio-based cartridge water filter is banana stem. The cartridge was prepared by mixing the banana stem powder with glue that made from Sago flour to form dough and followed by pressing the dough into the mould. The molded dough was heated at 80°C for 5 days with the mould covered and another 10 days without the mould to remove the moisture contamination of the cartridge. The water quality evaluated were turbidity, color, free and total chlorine, suspended solid, pH and dissolve oxygen. The results were compares with the conventional cartridge water filter which is the polypropylene cartridge. It was found that the bio-based cartridge water filter have similar performance with conventional cartridge water filter and even better from it because it can remove 100 percent remove free and total chlorine from the water sample. These results shown that the bio-based cartridge water filter has the potential to be commercialized.

TABLE OF CONTENTS